UCLouvain

lecon2033

2017

Applied econometrics: Microeconometrics

5 credits	30.0 h + 12.0 h	Q1

Teacher(s)	Dejemeppe Muriel ;
Language :	French
Place of the course	Louvain-la-Neuve
Prerequisites	*The prerequisite(s) for this Teaching Unit (Unité d'enseignement – UE) for the programmes/courses that offer this Teaching Unit are specified at the end of this sheet.*
Main themes	(i) On the basis of cross section and panel data, the course proposes several methods that aim at a correc-tion of the " endogeneity " bias: the "proxy variable" method, the method in first difference, the dif-ference-in-differences method and the "fixed effect" method; the instrumental variables method and (possibly) the estimation of simultaneous equations. (ii) There will be a refresher on binary choice models; One will introduce to the analysis of truncated and censored regression models; One might in addition treat one or more themes within the following list: models for multiple choices (ordered or not), the Poisson model and/or the endogenous selec-tion model ("Heckit"). Examples in various domains of application in economics will illustrate the methods. Minimum one third of the course will be spent on learning how to use a software that allows students to apply the estimation methods to real data. This learning will be realised on the basis of programming examples provided by the lecturer and on the basis of practical exercises realised by the students.
Aims	1 This course introduces the student to the analysis of cross section and panel data. It aims at two principal objec-tives: to learn (i) how to identify the causal effect of a variable (e.g.: a policy, the action of a firm or of a con-sumer, the change in a price,) on the dependent variable (e.g.: the level of wages or profits, the quantity of sold goods,); this relates, in particular, to the correction of the "endogeneity" bias induced by unobserved variables, by measurement error and/or by simultaneous relations; (ii) how the estimation method can account for dependent variables that are only partially observed ("truncated" and/or "censored") or that are not continu-ous, but discrete (ordered or not). The student should understand in what way the learnt methods can help him or her in finding an answer to con-crete questions in various domains of application such as in labour economics, industrial organisation, develop-ment economics or public economics. At the end, the student should be capable to apply the estimation methods, to interpret the estimated parameters and to test a number of hypotheses, such as the validity of the pursued method and of the specification of the estimated model. - - - - *The contribution of this Teaching Unit to the development and command of the skills and learning outcomes of the programme(s) can be accessed at the end of this sheet, in the section entitled "Programmes/courses offering this Teaching Unit".*
Content	The course starts with a refresher on the method of ordinary least squares (OLS). Within this framework, one explains the "proxy variable" method and the difference-in differences method applied to (repeated) cross-section data. Subsequently, the first difference method as applied to panel data is explained. The second part treats the methods to analyse static panel data models: the "fixed effect" and the "random effect" model. The third part discusses the method of instrumental variables. The non-linear models are treated in the last part: the logit and probit model (contrasted to the linear probability model); the multiple choice model (the multinomial and conditional logit model, the ordered probit, and the Tobit and truncated Normal model). If time permits it, the students are introduced into the methods that correct for endogenous sample selection. The lecturer explains the theory on the basis of transparencies. The students can complete his/her understanding on the basis of a reference manual. The methods are systematically illustrated by applications in various do-mains of economics. The students learn to implement the estimation methods on real data. This is realised by following a number of practical sessions in the computer room, by reproducing the programming examples of the lecturer and by working on a number of practical exercises that haven't been seen during the lectures.
Other infos	Prerequisite : The compulsory course of econometrics of the Bachelors in economics and management or an equivalent course. Evaluation : A written exam and oral defense. Part of the exam consists of a practical homework to be prepared in advanced within small groups. In the other part of the exam the student must respond to a number of questions on the theory and the applications. The oral exam is personal and aims at obtaining a complementary judgement on the homework and the written exam. Course materials : Certain chapters of the book of Wooldridge (Introductory Econometrics), completed by transparencies and notes of the lecturer. Others : The students will receive feedback on the practical exercises.
Faculty or entity in charge	ECON

Programmes containing this learning unit (UE)

Program title	Acronym	Credits	Prerequisite	Aims
Master [120] in Agricultural Bioengineering	BIRA2M	5	LECGE1316 OR LINGE1221	
Master [120] in Statistics: General	STAT2M	5		
Master [120] in Mathematical Engineering	MAP2M	5		
Master [120] in Economics: General	ECON2M	5		
Master [120] in Agriculture and Bio-industries	SAIV2M	5		